

REMARKS

This Amendment is filed in response to the Office Action mailed on June 2, 2005.

All objections and rejections are respectfully traversed.

Claims 1-32 are in the case.

No Claims were amended.

No claims were added.

At Paragraphs 1 and 2 of the Office Action, Claims 1, 2, 14, 17, and 22-32 were rejected under 35 U.S.C. 102(b) as being anticipated by Huxoll U. S. Patent No. 6,799,189 issued September 28, 2004 (hereinafter Huxoll).

The present invention, as set forth by representative claim 1, comprises in part:

1. A method for generating a backup of a database, the method comprising the steps of:
 - preparing the database for backup by rendering the database coherent so that the database can be restored without loss of data; and
 - creating a snapshot of a file system, the file system comprising files including the database and associated log files while the file system is active and available for access by users.

Huxoll discloses a backup method for computer files or computer databases, where the method is to save a series of online snapshots. A snapshot, according to Huxoll, is a “The resulting database snapshot is an image of the database file(s) as they were just before the start of the database snapshot (i.e., a consistent point-in-time image). (Huxoll Col. 6 lines 52-54). Huxoll maintains his series of online snapshots of consistent point-in-time images online, so that recovery will be faster than having them offline.

Applicant respectfully urges that Applicant’s claimed “snapshots” are totally different from those disclosed by Huxoll. As explained in the Amendment filed on March 25, 2005, Applicant’s claimed novel snapshots are copies of pointers, not the full image as taught by Huxoll.

Applicant respectfully urges that Huxoll is legally precluded from anticipating the presently claimed invention under 35 U.S.C. § 102(b) because Huxoll has no disclosure of Applicant’s claimed novel *preparing the database for backup by rendering the database coherent*. Huxoll simply saves his point-in-time image when saving his “snapshot”, and does not do as Applicant claims, where Applicant claims *preparing the database for backup by rendering the database coherent*.

Huxoll simply stores complete images of his database at particular points in time, and then uses these images to do his reconstruction. Applicant respectfully urges that

Huxoll is silent concerning Applicant's claimed novel step of *preparing the database for backup by rendering the database coherent*.

Further, Applicant respectfully urges that Huxoll is legally precluded from anticipating the presently claimed invention under 35 U.S.C. § 102(b) because of the absence from the disclosure of Huxoll of Applicant's claimed novel *creating a snapshot of a file system, the file system comprising files including the database and associated log files while the file system is active and available for access by users*.

Particularly, Applicant defines a "snapshot" as saving the pointers to data, not all of the data, as defined by the cited Huxoll patent. In the present Specification, the nature of a snapshot is disclosed with reference to Fig. 6A, 6B, and 6C in the Specification Page 14 lines 17-27, which state:

Fig. 6a shows an exemplary root inode 602 of an active file system 600 linking four inodes 605. Note that the active file system would include additional data structures and blocks (not shown) such as a file system information block defining the root of the active file system. In accordance with the illustrative embodiment, the active file system 600 includes a root inode linking to the various inodes 605 that contain the data associated with a file or directory. In Fig. 6b a conventional snapshot 610 has been taken of the root inode 602. As can be seen, the snapshot 610 includes a link to each of the inodes 605. Fig. 6c shows the snapshotted root inode after data inode D has been modified into D'. Thus, the snapshot 610 provides links to data inodes A-D, which represent the state of the data at the time of the snapshot. The root inode 602 which now represents the modified root inode, links to unmodified data inodes A-C and the modified inode D'.

(Specification Page 14 lines 17-27)

Accordingly, Applicant respectfully urges that Huxoll has no disclosure of Applicant's claimed saving of a snapshot, where in the vocabulary of the present patent application, a snapshot is created by saving only the pointers to data.

Again, Applicant respectfully urges that Huxoll discloses saving his data as a "consistent point-in-time image", including both the data and the pointers. Applicant claims saving a snapshot, which is only saving the pointers to the data.

Applicant points out that both the cited Huxoll patent and Applicant's Specification define a "snapshot" differently. Further, Huxoll has no disclosure of saving a snapshot in accordance with Applicant's definition of a snapshot, that is saving the pointers to the data.

Further, Applicant respectfully notes that Huxoll cannot write all of his data to a point-in-time-image *while the file system is active and available for access by users*, as it is ordinarily necessary to shut down access to a file while all of the data is being transferred in a point-in-time image. Accordingly, Huxoll has no disclosure of Applicant's claimed novel creating a snapshot *while the file system is active and available for access by users* as claimed. An important difference is that Applicant claims saving the point-

ers, and Huxoll discloses saving a complete point-in-time image, and in a point-in-time image both his pointers and his complete data set are saved.

Accordingly, Applicant respectfully urges that Huxoll is legally precluded from anticipating under 35 U.S.C. § 102(b) Applicant's presently claimed novel invention, both because of the absence from Huxoll of Applicant's claimed novel *preparing the database for backup by rendering the database coherent*, and also because of the absence from Huxoll of Applicant's claimed novel *creating a snapshot of a file system, the file system comprising files including the database and associated log files while the file system is active and available for access by users*.

At Paragraphs 3 and 4 of the Office Action Claims 3, 4, 6, 8-11, 18-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Huxoll in view of Ohran U. S. Patent 5,835,9553 issued November 10, 1998.

The present invention, as set forth by representative claim 4, comprises in part:

4. A method for generating a point-in-time restoration of a set of database files and a set of associated log files to an active file system, the method comprising the steps of:
 - selecting, by a user, a backup to restore therefrom, the backup comprising a snapshot of a file system including the set of database files and copies of the associated log files;
 - verifying the selected backup for coherency;

copying, in response to the backup being coherent, the snapshot of the set of database files to the active file system; and
copying, in response to the backup being coherent, the copies of the associated log files to the active file system.

Ohran discloses a file system and method for backing up his file system. Ohran uses another definition of snapshot:

“In order to preserve the original data of the primary mass storage device during the backup process, a static snapshot of the primary mass storage device is taken. This static snapshot captures the changes that have been made to the primary mass storage device and that need to be transferred to the backup system.”

(Ohran Col. 5 lines 62-67)

Ohran discloses creating a backup by first copying the primary data storage devices at a first point in time, and then backing up at a later time point only those data blocks of the primary storage device which have changed.

Applicant respectfully urges that Ohran is silent concerning Applicant's claimed novel *copying, in response to the backup being coherent, the snapshot of the set of database files to the active file system.*

Again, Applicant's snapshot is created by saving pointers to Applicant's data.

Applicant respectfully urges that Ohran has no disclosure of Applicant's creating snapshots of only pointers to Applicant's data.

Further, Applicant respectfully urges that neither Huxoll nor Ohran has any disclosure of Applicant's claimed novel *creating a snapshot of a file system comprising files including the database and associated log files while the file system is active and available for access by users.*

Even further, Applicant respectfully urges that Huxoll, by storing full dumps and not disclosing making the file system coherent, and Ohran by simply copying changes to the data, will lead a person of ordinary skill in the art of file system architecture and design astray. The person of ordinary skill in the art will be lead astray because if either or both of Huxoll and Ohran are followed, the person will miss Applicant's claimed novel *preparing the database for backup by rendering the database coherent.*, and will miss Applicant's claimed novel use of a *snapshot* formed by saving pointers to the data of the file system, and will miss Applicant's claimed novel creating a *snapshot* of the coherent file system and not simply saving changes to the data.

Still further, Applicant's claimed novel invention first *preparing the database for backup by rendering the database coherent* creates a file system having coherent pointers, and then saves the pointers as a *snapshot*. The disclosures of Huxoll and Ohran,

when combined, cannot achieve Applicant's claimed novel creating a *coherent* file system, and then saving the pointers of his *coherent* file system as a *snapshot*.

Accordingly, Applicant respectfully urges that neither Huxoll nor Ohran, taken either singly or in combination, are legally sufficient to render the presently claimed invention unpatentable under 35 U.S.C. § 103(a) because of the absence from both cited patents of Applicant's claimed novel invention of first *preparing the database for backup by rendering the database coherent* which creates a file system having coherent pointers, and then saving the pointers as a *snapshot*.

At Paragraph 5 of the Office Action Claims 5, 7, 12, 13, 15 and 16 were rejected under 35 U.S.C. 102(a) as being unpatentable over Huxoll in view of Ohran and further in view of Lewis et al. U. S. Patent Application Publication No. 2002/0083037 published on June 27, 2002 (hereinafter Lewis).

Applicant respectfully notes that Claims 5, 7, 12, 13, 15, and 16 are all dependent claims, and that they are dependent from independent claims which are believed to be in condition for allowance. Accordingly, the dependent claims are believed to be in condition for allowance.

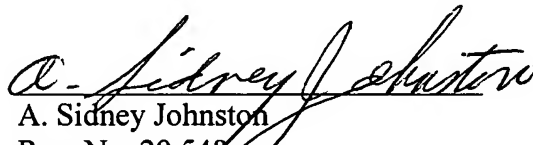
All independent claims are believed to be in condition for allowance.

All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,


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